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On Wednesday, June 16, the University of Toronto instituted a hiring freeze upon all departments and facilities. Simply stated, any position that was open (or about to be opened) on that date cannot be filled immediately unless it is through re-allocation of staff within the Division or if approval is granted by the Vice President's office. Within UTCS, the implications of this decision hit hardest at the group of people who produce this newsletter and other documentation. Information Services (UTCS) currently has numerous positions open, and faced with this situation, *COMPUTERNEWS* can no longer be published in its present format. However, UTCS management is reviewing the organization's staff resources for possible redeployment in order to maintain a viable Publications Group. Therefore, while this newsletter will continue to appear regularly, readers can expect to see it in an altered form in the future.

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Cover

We're celebrating our anniversary! This issue is the 200th issue of *COMPUTERNEWS* since UTCS began newsletter publication in 1965.

Thanks are due to Jim Bailey for the photograph and the Harbord Bakery for the cake.

Subscriptions

Subscription changes should be entered on the tear-out form at the back of this issue, and mailed to the Information Office, Engineering Annex, Room 206 (or phone 416-978-4990).

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To All UTCS Users:

As you may have read in the June 21 issue of the Bulletin, the university and IBM have entered into a partnership agreement. Under the terms of reference of this agreement, IBM will be making available to the university a 3033U16 machine with appropriate peripherals and 180 terminals. The primary thrust will be directed towards improving the quality of instructional and research computing.

The UTCS Review Board has instructed us to develop and implement an operational system comprised of VM/UNIX facilities, by September 1982. The Review Board has approved the necessary extension of test time to facilitate these developmental activities. Since the partnership machine is not immediately available, we must conduct testing of the VM/UNIX based software on the existing 3033 machine. Accordingly, the IBM academic system will be brought down for testing as per the following schedule:

- during the week, 22:00 until 01:00 every night;
- during the weekend, we will attempt to restrict testing to Sundays only, but may have to occassionally impinge upon some Saturday evenings.

The above will be the standard practice effective immediately until September 1. This announcement will be circulated through our normal form of warning, alert notices and HOTNEWS etc. Specifically, the IBM based services will not be available. The link from the DEC-10 to IBM will not be operative during the above specified test time, and the LIBRA service will also be curtailed by an hour at 22:00 each night.

Professors who are expected to use the UTS system for introductory courses in the Fall term are encouraged to participate in our testing activities. Please contact Mr. Terry Wood for testing arrangements.

We regret this temporary inconvenience, however, it is necessary to do so in order to enhance the quality of computing through this opportunity.

D.J. Cohen

Summary of SCRIBE Test Results

During the months of April, May, and June 1982, UTCS conducted a test of the SCRIBE formatting package. SCRIBE had already been adopted as one of the standard formatters at many institutions (BBN, Stanford, MIT, CMU, Yale, Harvard, University of Southern California, University of Washington) and reports from several of these institutions suggested that the product had served the needs of their users well. The purpose of the test was to determine how SCRIBE measured up to some criteria which had been published in UTCS' NEWSLETTER (#196 - "A New Formatter for UTCS"). The following is a summary of how SCRIBE performed:

- **Reliability:** SCRIBE has proven to be a reasonably reliable product -- no disastrous errors were found in the product. Only one *real* bug was discovered; a few inconsistencies, however, in the SCRIBE database were found and corrected. These problems were reported to the vendor.

- **Portability:** SCRIBE is currently available for our DECsystem-10, VAX Unix and VMS, and IBM MVS systems. It is potentially available for other systems as well.

- **Device Independence:** Of the list of output devices requiring support, support for most was demonstrated during the test, including:

  Diablo Terminals, including
   proportional spacing
  VT100 and other fixed character
   width ASCII CRT terminals
  LA36 DECwriter
  Line printers
  CAT phototypesetter, Varian Plotter
  GIGI Graphics terminal

  In addition, Unilogic has assured us that drivers are available for the Xerox 9700 (as a proportional-spacing pseudo-typesetting device!) and for the VIP typesetter (at U of T Press). Although no driver is currently available for U of T Press' newer Linotron 202 typesetter, Unilogic has stated that development work for such a driver has begun.

- **Good Documentation:** Users in the test liked both Unilogic's User Manual and reference card. This conclusion is supported by their response, as shown in a user survey.

  Although we missed the availability of a full reference manual, we found that the reference card seemed to perform the job adequately. In addition, we felt that the User Manual compared favourably with other similar products for other formatters -- probably better than Waterloo SCRIPT's User Manual, and definitely superior to the RUNOFF, UNIX or ATMS documentation provided by their respective distributors.

  The system support documentation, entitled "The Database Administrator's Guide", also seemed accurate, understandable and complete. We had little trouble supporting the SCRIBE database with its advice.

- **Generic Markup Facilities:** Several users reported satisfaction with the Generic Markup Facilities provided by SCRIBE, although several also commented that they had to change their way of thinking about document formatting. Those users who insisted on trying things not provided explicitly in the document layout part of the database ran into more problems. Several users commented that they thought that the consistency of format gained by the use of Generic Markup outweighed the disadvantages inherent in being tied to such a format.

continued...

SCRIBE Test Results continued

Another way in which some users benefited from Generic Markup was that the same document was often runnable through several fundamentally different types of output devices, with little or no need to change the input text. Several large documents were formatted and printed on the CAT typesetter and the line printer, with virtually no input textual changes.

We found that document formats suitable for a large number of different types of documents (from theses to colour slides) were provided within the distributed SCRIBE database. However, some work on the formats seemed to be necessary to make them usable on all the types of output devices we were interested in.

- **Good Error Handling:** All users during the test seemed to like the error messages that SCRIBE produced. The messages generated seemed to be sufficiently clear, and the user only rarely had to refer to the manual for further explanation. Offending lines in the text were clearly identified, being displayed with the message, with line numbers and (where suitable) file names of files where the lines could be found.

- **Special Features:** Among the special formatting features we found were the following:

  Features for Large Documents: Features to assist in the preparation of large documents included facilities to allow sections to be kept in separate files, to allow the processing of parts of a large document, and to assist in the generation of cross-references. A special section of the user manual described how to use these tools to the best advantage.

  Bibliographic Support: To our knowledge, this is the only package we've ever had at UTCS that provided assistance in the preparation of bibliographic information for a large scholarly work. SCRIBE allows the user to construct a "database" representing bibliographic information based on the user's own research materials. This material can be categorized by the user according to type of material, and then referenced within the text of the work. SCRIBE will recover the bibliographic entry, format it (taking care of commas, italicization, etc.), and display it in a suitable format.

  Two Column format: This feature is not unique to SCRIBE -- SCRIPT and ms/troff both support two column output. Furthermore, SCRIBE's two column format is incomplete because it is incapable of balancing columns. However, Unilogic has stated that provisions to support balancing of columns should be available by April, 1983.

  Merging of Text and Graphics: Unilogic is beginning to consider the problems of the merging of text and graphics. The GIGI driver provides tools which allow the user to merge conventional graphic output (such as that generated by KIG and SASGRAPH) into output generated by SCRIBE. SCRIBE sets aside space for the figure, and positions the figure within its own output at a suitable location.

  Although this feature is only available for the GIGI system, SCRIBE has been sufficiently well designed to potentially allow this merging to occur for other types of devices.

- **Resource Consumption:** SCRIBE is a big program. On a machine where 30 or 40 pages of memory per user is common, SCRIBE, with its frequent need for over 200 pages, is quite large indeed. However, with the current memory size of about 700 pages, SCRIBE runs well and does not affect other users' response. A qualitative judgement is that even when the machine is busy, SCRIBE is not likely to heavily affect users, since only one image of it is likely to be in use at any time.

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SCRIBE Test Results continued

Unlike other large programs on the DECsystem-10, like MLAB or LISP, SCRIBE is essentially a batch process, and most SCRIBE users will spend most of their time in an editor rather than running SCRIBE itself. This will probably reduce the effect of SCRIBE's size on the machine's response.

- **User Costs:** SCRIBE is a large program and is therefore expensive for the user to run. However, the SCRIBE user is not using SCRIBE all the time. We have found that in the "average" SOS/SCRIBE session, it is expected that the cost per hour will fall roughly in the $5.00 range -- roughly equivalent to what UTCS charges for ATMS and UNIX text processing services.

Recommendation for its acquisition has been forwarded to the UTCS Review Committee.

Lidio Presutti

Special Forms Consolidation

In response to budgetary constraints UTCS has consolidated the printing of special forms. Forms which were printed at the Engineering Annex Terminal prior to June 7 will be printed at UTCS central site in McLennan Physical Laboratories. This site is located on the third floor of the north building in room 367. The building can be entered from either 60 St. George Street or 255 Huron Street.

The consolidation of special forms printing will have the following impact on UTCS users:

1. All PRINT jobs with an output destination of CENTRAL will be printed in McLennan Physical Labs. This will include jobs printed on the standard forms, special forms, and any job requiring more than 15,000 lines of printed output.
2. All confidential output will be filed inside the machine room in McLennan Physical Labs. There will be no facility at the Engineering Annex for filing confidential output.
3. All PUNCH output will be punched and filed at McLennan Physical Labs central site.
4. Interpreting of punched cards will not be provided by UTCS operations staff.
5. The **new** number to call for system/job status will be 978-7393.
6. The **default** forms mount for print jobs with an output destination of ITS will be an upper/lower case print train on 8 1/2" long by 14 7/8" wide lined paper, printing 8 lines per inch.

Operations at McLennan Labs

The following operational procedures are now in effect at the CENTRAL McLennan site:

1. ACCESS to filed output in McLennan Physical Labs is governed by existing building regulations. During the academic sessions (September to mid-December and January to mid-August) hours of access will be:

Monday-Thursday	08:30-22:00
Friday	08:30-17:00
Saturday-Sunday	CLOSED

Outside of the academic terms (mid-December to January and mid-August to September).

Monday-Friday	08:30-17:00
Saturday-Sunday	CLOSED

continued...

Special Forms continued

In addition, the building will be closed on all university holidays.

2. Non-confidential output will be filed in the hallway outside room 367 in McLennan Labs. Confidential output will be filed in the machine room, room 367.

Operations at the Engineering Annex Terminal

As a result of the special forms consolidation, service in the Engineering Annex Terminal (General Purpose Job Stream area) will consist of two self-serve printers, a reader, a GOULD 5200 electrostatic plotter, five keypunches, and an interpreter.

The printers will retain their present classification of output destination SELFSERV, with the standard forms mount, and print limit of 15,000 lines. Output of confidential electrostatic plots (GOULD) will be filed in the machine room (room 367) in McLennan Labs. Non-confidential GOULD output will continue to be filed in the Engineering Annex. An interpreter will be available in the Engineering Annex for self-serve use.

Sue May Chong

Change Committee

1. Full details on current changes will be published in *COMPUTERNEWS* and HOTNEWS as events occur. Users may also contact their CSR or Dr. Frank Spitzer for details. Users should also feel free to contact their CSR if there is a change they feel would be of benefit.

2. Effective July 1, all 7-track magnetic tape service will be discontinued. Support will also be dropped for 9-track 800 bpi magnetic tapes. Users will be provided with special facilities to convert 9-track 800 bpi magnetic tapes to 1600 bpi after this date.

3. 2741 terminals will no longer be supported. Users should note that these are used at their own risk.

4. We are currently looking at expanding DATAPAC facilities. Interested users should contact Dr. Frank Spitzer or Ihor Prociuk.

5. The sign-on screen for the IBM systems has been modified and is now called NETMON.

6. The Oxford University Concordance Program (OUCP) is not yet available. We regret any inconvenience this may cause for users.

7. Support for MVT JCL modifications unsupported by IBM in MVS will be dropped. Users having problems with this should contact their CSRs. (See also the May/June issue of *COMPUTERNEWS*, page 8).

8. A new release of PL/I (Release 4.0.0) from IBM was installed June 1 for testing.

9. PACX disconnect on LOGOUT on the PDP11/70 is now complete. This will free up ports to enable others to login.

10. A new procedure called IEBCOPY is now available. This is similar to IEBGENER procedure.

11. Users should note that on-line documentation for SAS/GRAPH has been renamed from:

continued...

Change Committee continued

APPL.STAT.SAS795.GRAPH.DOC

to

APPL.STAT.SAS.GRAPH.DOC.

12. Users should also note that the NAG library APPL.MATH.NAG.LOAD.LIB was renamed to

APPL.MATH.NAGLIB

on June 14.

Cecilia Welch

The SHARE Process

The past several years have seen a tremendous growth in the complexity of computer systems. What was once the arena of management, which separated the control of a computer centre into applications, systems, operations, and marketing, has now expanded with the increased importance of communications, distributed computing, and ergonomics. Moreover, the considerable interdependancy of these fields makes identification of the appropriate department for the planning and implementation of a system difficult.

One of the more successful remedies for these complications is to formally communicate with others in the same situation, with the intention of sharing information regarding problems and resolutions, tips and techniques, new facilities and plans. To this end, a group of IBM 701 users from the Los Angeles area created the first computer user group. This group, called "SHARE", first met in Santa Monica, California, in 1955 with a total participation of 46 members of 17 installations. SHARE has since grown to somewhere in excess of 1500 installations, with an average attendance at major meetings of three to four thousand.

The purpose of SHARE has solidified over the years to become a body dedicated to two main goals. The first is to live up to its name by promoting user experience presentations, ad hoc meetings for specific interests, and user group discussions. The second is to attempt to steer IBM's product direction to better serve the interests of its members. To accomplish this, SHARE promotes the development of "requirements lists" which are voted upon by attendees and presented to IBM, with the subsequent ranking, for comment from IBM management. IBM has considerable interest in this activity, as the process is a good marketing strategy, providing them with market feedback without the expense and effort of performing a market analysis.

It has been said that a project or system structure tends to mirror the organization which created it. This is true of SHARE as well. Being an IBM user group, the divisions within SHARE tend to follow IBM product lines. Thus, the Distributed Data Processing project (DDP) deals mainly with 8100 series computers and SNA, the Basic Systems division supports projects to handle JES2 and JES3, and the Management division follows products like INFO/MANAGEMENT closely. The Local Area Networks project (LNET) is somewhat of an anomaly in the SHARE scheme as it has no IBM product to oversee. As such, LNET requirements have a tendency to be returned from IBM marked "future consideration" or "long-range goal", where other projects might see a few "next release" or "currently under study". With IBM's direction changing in certain products, particularly in the communications area, SHARE is forced to try to keep up with these changes by shifting the emphasis of its interest groups to match.

There are currently four divisions within SHARE: Applications, Basic Systems, Com-

continued...

The SHARE Process continued

munications and Database Systems, and Management. In each division the interest is split up into groups, projects, and committees. Above the divisions are the Advisory Council and the Board of Directors, which administer the operation and overall direction of the SHARE corporation.

General meetings for SHARE are held twice a year, with typically a west coast location in March and an east coast location in August. This year's meetings include the Los Angeles meeting three months ago (see the May/June issue of *COMPUTER-NEWS* for a report), and the upcoming New Orleans meeting in August. Next year's meetings will be in San Francisco and New York City.

At the New Orleans SHARE, expect to see presentations from IBM's Communications Products Division on local area networking standards, (as was presented to the IEEE 802 working session on LAN standards in Dallas last March), sessions on Series/1 tips and techniques, as well as Series/1 applications like the Telephone Audio Distribution System (a voice actuated store and forward telephone system), robotics, and distributed SNA presentation services for IMS.

Barry Lay

DEC-10 User Forum Planned for Fall

Another in the continuing series of forums for DEC-10 users will be scheduled for early this Fall. These informal meetings provide users with an opportunity to meet those UTCS staff members directly responsible for maintaining and operating the DEC-10.

In the past, the exchange of information and opinion at these meetings has served to both keep UTCS informed of the issues important to users, and to make users aware of UTCS short and long term objectives.

The time and place for the forum will be announced.

Dr. Edmund West

New DEC-10 Memory is Here!

On Friday, May 7, a new MH10 memory unit was installed on the DECsystem-10. This 256 kiloword increment doubled the total system memory to 512 K words (1024 pages). Of greater significance to users, the amount of memory available to user jobs almost tripled from 279 pages to 791 pages (the remainder being used by the operating system itself).

This increase in memory immediately produced a dramatic improvement in response time. Instead of experiencing delays of several seconds after typing a command, users found that the system was reacting almost instantaneously.

The graph on the following page illustrates the significant effect the new memory had on system performance. The middle plot shows the number of logged-in jobs (averaged over an hour); these are much the same from day-to-day across this time period. The lower plot displays the response times measured during the same time interval. The horizontal marks represent the average response (typically in the one second range), while the vertical line marks the one standard deviation limit (often in the several second range during busy periods). The installation of the new memory caused both of these to drop to

continued...

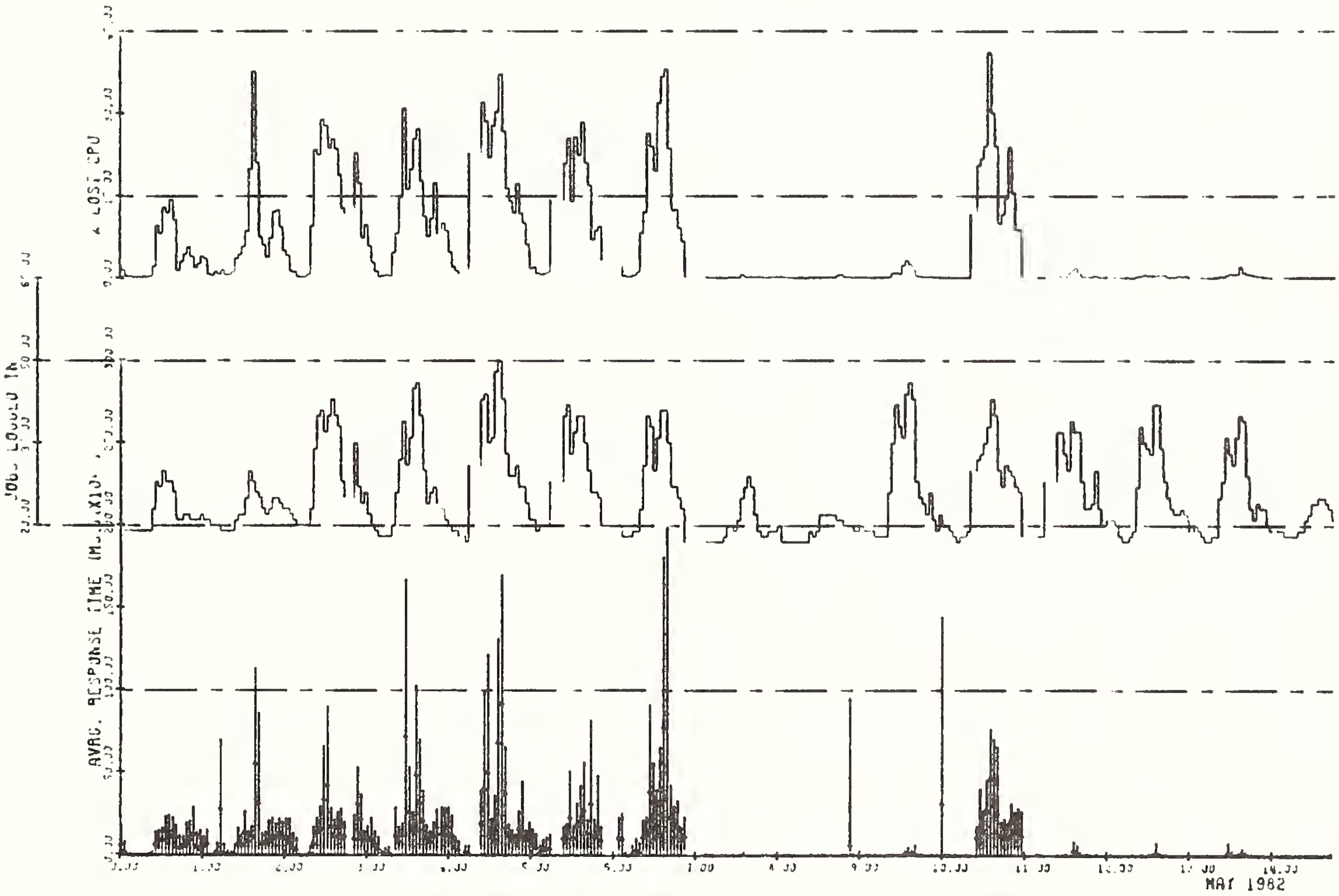
New DEC-10 Memory is Here! continued

nearly zero.

The top graph shows that the system "lost time". This parameter is the time the system spent waiting for a runnable job to be swapped into memory at a time when none of the jobs already there were runnable. For a TOPS-10 system, a large percentage of "lost time" is a strong indication that there is too much swapping. The installation of the MH10 memory caused "lost times" to drop from the 20-40% range to 0-4%, a clear indication that the new memory has had the desired effect.

Additional users coming on the system this Fall will certainly produce a heavier load than existed when these data were collected. Nevertheless, all indications are that computing on the DEC-10 will be a much more pleasant experience than at any time in the recent past.

Dr. Edmund West



Spring DECUS '82

The Spring '82 U.S. DECUS was held in Atlanta in May. Three people from UTCS attended the symposium, each following a different interest stream. The following report focuses on developments relevant to our DECsystem 10 in the "Large Systems" stream.

The most significant news pertains to the replacement software for the IBM link. DEC has experienced great difficulty with this new software on DEC-20's and has held up its release to DEC-10 sites. It turns out that there will be a further delay, perhaps as long as a year. Another very large piece of software, which was previously tied to the link software, has been detached from it and will be delivered to us in a few months. This software is a major new version of GALAXY, the batch and queueing control package.

The biggest change under this new package will be felt only by the operations staff. Users will perceive little difference, but they will have access to a TOPS-20 style recognition input routine library, as well as the ability to queue jobs for the IBM link or batch queues from within a program.

Sometime after the new GALAXY runs, we will begin making changes to the accounting system. The effect of this will be hidden from users, but it will allow users to use one PPN and charge the session costs to different "accounts". For people who must account for resources used on different tasks, this will be of great help. This feature may eliminate the need for anyone to have more than one PPN. More information about GALAXY will be provided as the installation date approaches.

A release of TOPS-10 will arrive soon. It will allow users to define their own commands. Coming also in the Fall is an announcement by DEC for the follow-on processor to our KL cpu. This new machine is expected to be about 5 times as fast as the KL we have. Unconfirmed rumors suggest that this machine will use Ethernet to communicate with local terminals, and that the same ether will be used to talk DECnet to other 10s, 20's and VAX's. DEC is expected to announce Ethernet support for VMS at about the same time. This new machine will be delivered around mid-1983 and will initially run only TOPS-20. There is still no word on the release date of DECnet for TOPS-10, although is has recently been announced for TOPS-20. However, DEC uses TOPS-10 DECnet on their own network, so an announcement can be expected in the future.

This symposium was five solid days of technical detail: a worthwhile, but very tiring experience. I would be happy to talk to anyone interested in more detail on the symposium.

Corot Reason

Software Inventory

Many users have purchased software or data from external suppliers only to find that the same information has long been available elsewhere within the university. Therefore, not only must multiple users pay license and storage fees, but they also suffer the delays of not having the information readily available. In order to deal with these problems, UTCS is undertaking a software inventory. This project's goal is to improve computing both for users of UTCS services and those with private stand-alone facilities.

Forms for this inventory may be obtained from your Computing Services Representative. A separate form should be completed for each piece of software. Such questions as when the software was last updated, whether the user wishes to charge a fee for the software, and how it is stored are included in the form. Once these forms are returned to UTCS, the information will be compiled and maintained at all advising offices.

Information will be updated periodically, but UTCS will assume no responsibility other than that of making the information available. UTCS will merely act as a broker between interested parties, and will be in no way responsible for the reliability, authenticity or legality of the information being exchanged.

For further information contact your CSR.

Frank Spitzer

Warning Against Copying GPJS Catalogued Procedures

Occasionally, users will copy UTCS catalogued procedures (i.e., those in SYS3.PROCLIB) and use them either in their own JCL, or as part of their own catalogued procedures. This practice should be avoided since UTCS is constantly modifying these procedures in accordance with changes to the programs and processors they invoke. SAS and graphics procedures involving either the GOULD, or the CALCOMP plotters are especially liable to change. So, if you are doing this, or know of anyone who is, please inform a CSR. This could prevent a great deal of frustration and lost time in the future.

Herb Kugel

The NAG Library

The NAG (Numerical Algorithms Group) Library is a collection of several hundred FORTRAN subprograms providing capabilities in several areas of numerical analysis.

NAG includes some routines that are functionally equivalent to those found in other packages at UTCS (e.g. IMSL). Additional features are provided in the following areas: quadrature, ordinary differential equations, partial differential equations, and linear algebra. Also, NAG routines are available to solve the quadratic programming problem and some classes of the integer programming problem.

NAG documentation is clearly written and a basic introduction to numerical aspects is

continued...

The NAG Library continued

provided for each area. Most sections provide a flow chart so that the most appropriate routine for a particular problem can be found quickly. Full NAG documentation is available for reference at the UTCS Information Office and at the Physics Terminal (Room 1202 in the Burton Tower).

UTCS offers the double precision version of the NAG Library. This means that all real arguments to the routines must be declared as DOUBLE PRECISION (or REAL*8) in the calling program.

The executable load modules are stored in the dataset APPL.MATH.NAGLIB on the IBM 3033 computer. Thus, to access the NAG routines from a FORTRAN program using the FORTLEGO catalogued procedure, the EXEC statement would appear as:

```
// EXEC FORTLEGO,IX=APPL,LIBRARY='MATH.NAGLIB'
```

The dataset APPL.MATH.NAGDOC is partitioned and contains online documentation in two members. Member NOTES describes implementation details specific to IBM 370 computers. Member INDEX provides a listing of the routines followed by a one line description of their function.

Bob Chambers

New FORTRAN-10 Released

Digital has released version 6 of FORTRAN-10. This release incorporates bug fixes, a rewritten mathematics library, object time system routines, and a partial implementation of the 1977 FORTRAN standard (mainly in the area of I/O control, additional formatting capability, OPEN parameters, etc.).

The planned date for officially converting to the new FORTRAN is July 5. Version 6 was installed in NEW: on April 29. During the last two months it has been accessed by users with their /NEW switch set without any significant problems.

A number of changes, however, may affect programs at compilation time, while linking or during execution. Many of these involve warning messages relating to the new FORTRAN standard and are easily resolved. Others, such as mathematical routines which produce more accurate, but different results, may be more subtle. UTCS strongly recommends that FORTRAN users read the file DOC:FORTRAN.NEW, which describes these changes in some detail.

As well, a new FORTRAN reference manual (number AA-J127A-TK) is now available, and may be ordered through the Information Office.

Dr. Edmund West

VS FORTRAN Available at UTCS

UTCS has installed the new IBM VS FORTRAN. It incorporates such new features as structure statements, character string manipulation, and extended optimization. It is somewhat more expensive to run than the previous release of FORTRAN, though, and can be incompatible with UTCS graphics routines and the other IBM FORTRAN compilers.

If you are interested in using VS FORTRAN, please contact your CSR for an explanation of the risks arising from any FORTRAN incompatibilities.

Herb Kugel

SPEAKEASY Phaseout

Severe budgeting constraints have forced UTCS to remove little used but often costly software from our system.

Consequently, SPEAKEASY will be removed from the system; it will be phased out over the next several months. UTCS will be contacting individual users who have used the package during the last seven months to help with conversion, if it is necessary.

If you were planning to use SPEAKEASY or know of anyone who is planning to use it, please call your CSR.

Computing News in Brief

Tai Dam Dictionary

Dr. John Hartmann of Northern Illinois University has spent the past three years at work on a computerized dictionary of the Tai Dam language. The Tai Dam people are an "important ethno-linguistic minority living in the Dienbienphu region of North Vietnam", and it is estimated that there are at least 250,000 speakers of the Tai Dam dialect. Many Tai-speaking minorities have emigrated to Canada and the United States in the past ten years.

In compiling his dictionary, Hartmann has enlisted the help of older refugees who speak the 'pure' Tai Dam dialect. Hartmann has found that his informants are also the only people literate in the classical Tai Dam script, "which cannot be read by one who does not also speak the language." Tai Dam is a tonal language wherein word meanings are dependent upon word tone, but tone is not indicated in the written form. The tone used when reading aloud is found within the context of the work being read.

Dr. Hartmann began compiling the Tai Dam dictionary with only a Tai Dam/French lexicon published in the late 1880's. He later was assisted by the field notes of William J. Gedney of the University of Michigan. These notes, however, were individually recorded on pieces of paper, and proved very difficult to sort. This acquisition of valuable but unmanageable information prompted Hartmann to devise a system for transcribing the Tai Dam dialect so that he could more easily continue his work.

The dictionary is still five years away from completion, but it has already been used to translate a 15,000 word Tai Dam classic called *The Legend of Khun Terng*, as well as a version of the "Tai Dam Origin Myth".

In 1981, Hartmann published the book *Conversing in Lao: A Handbook for U.S. Sponsors of Lao-Speaking Refugees and Medical Personnel*, making use of the transcribing techniques he had developed for the Tai Dam dictionary. The book, which took only six months to prepare, compile, and edit, has proved to be an invaluable tool for those working with the Loatians.

Computer Generation of Tai Dam Script

George Henry, also of Northern Illinois University, is involved in a project to produce computer-generated Tai Dam script from the phonetic input of Dr. John

continued...

Computing News in Brief continued

Hartmann's Tai Dam dictionary. For this, a special character set had to be designed because a Tai Dam word is a "constellation of characters around the initial consonant. The exact configuration of the word depends upon the word's vowel(s) and tone."

The design of the characters has been formulated into three parts: a tone mark, a vowel fragment, and a consonant. The printing of the script is done with three passes of the printer over a single line. While all the eccentricities of the printer action and character formation have not yet been worked out, the project will be extended as time, money, and equipment become available. When complete, the computer-generated Tai Dam script "might be of use to the Tai Dam community...for producing newspapers and educational materials," suggests Henry.

(Quotations and material for these articles have been adapted from the Northern Illinois University newsletter, "COMPUTING NEWS", Volume 15, Number 4, March 1982.)

Archeology Department Manages with SPIRES

Information on archeological sites in Arizona, the southwestern U.S., and the northern Mexican states, has been collected at the Arizona State Museum of the University of Arizona for more than fifty years. Until 1970, that information was manually recorded on file cards and filed according to location within fifteen minute longitude/ latitude quadrangles. By 1980, Museum files contained records for over 10,000 archeological sites, and the computerized records system, to which 6,000 file cards had been transferred, began to prove inadequate for the museum's needs.

SPIRES, a system developed at Stanford University, is now managing the archeological records with an interactive system which can satisfy present as well as future needs. Site records contain the name, location, owner, condition, period, and bibliographical information about the sites. There is a total of 77 variables for each site, and these are organized in a hierarchical structure which best facilitates flexible and efficient database searches.

The files play an important role in identifying prehistoric and historic sites when land areas are being developed for industrial, agricultural, commercial, or urban uses. Archeological information can reroute or restructure development so that prehistoric and historic sites are not destroyed forever. Research regarding distribution of certain known archeological sites is made easier with the SPIRES system, and a future linking of the Arizona SPIRES database with those of other institutions is possible.

UNB Largest in the East

The University of New Brunswick Computing Centre, serving five campuses as well as the University of Prince Edward Island, is one of the largest centres of computing on the east coast. Conversational remote job entry and the library system comprise the top two uses of these extensive facilities. Two interesting projects presently using UNB's computer power are a Forestry graphics application and an Engineering study.

Greg Sprague, who is the manager of Computer Operations at UNB, has developed a computer model which is used as a teaching aid for students in the Faculty of Forestry.

"We had identified a need for a model to show graphically how trees in a forest grow in response to light conditions and the density at which they are planted," Prague said recently. According to him, variables of tree species, height, shape, annual growth, and space between trees are compared in the model where "future growth is a result of varying competitive conditions".

The second project underway at UNB is a cross-Canada study of accidents involving light vans or trucks. According to Professor

continued...

Computing News in Brief continued

Albert Stevens of the Department of Civil Engineering, "The project's goals are the reduction of accident injury severity and property damage." Data for the study is collected from ten other university accident research teams, and is stored and analyzed at UNB. The study, which began in 1980 and which will continue until 1983, will be used "to monitor motor vehicle safety standards and to develop new cost-effective standards", says Stevens. In the end, it might even save lives.

Americans/French Collaborate

Centuries of French culture will soon be available for study at the University of Chicago in a project entitled "American and French Research on the Treasury of the French Language". The university has acquired computer tapes of approximately 1,500 French texts written in the eighteenth, nineteenth, and twentieth centuries. Tape access will be made available via Telenet across the United States.

The machine-readable texts were originally compiled by the Centre National de la Recherche Scientifique for a descriptive dictionary of the French language. With the tapes residing at the University of Chicago, scholars of literature, history, and linguistics will be able to embark on extensive research projects hitherto unapproachable.

Cyberphobia: Fear of Computers

Sanford Weinberg, a professor at St. Joseph's University in Philadelphia, says that at least one third of the business people who deal with computers are afraid of them. In his research of cyberphobia (the fear of computers), Weinberg has found that the symptoms are the same as those of other phobias. Cyberphobiacs experience nausea, high blood pressure, and sweaty palms. The fear can prompt unusual defense tactics, like those of the office employee who dumped pencil shavings and coffee into a computer console.

Weinberg has found that the main cause of this fear is "the feeling that you have lost control". Part of the treatment of cyberphobia is to inform the sufferer of the workings and capabilities of the computer.

Education and computer literacy are part of the cure, but unfortunately these do not always act as preventative medicine. "Most people probably aren't getting educated about the problem," says Weinberg. He feels that high school and college courses are inadequate, and sees cyberphobia increasing as computerization in society increases.

An alternate branch of research that Weinberg is pursuing is the study of cyberphilia, the love of computers and compulsive programming. Cyberphilia has not attracted the same kind of concern as cyberphobia because few people are interested in finding a cure. Cyberphiliacs make model productive employees and business is not worried about that.

Patrica Shore

Update on SAS

New Manual

The SAS Institute has recently published the first book in the SAS Series in Statistical Applications. "SAS for Linear Models (A Guide to the ANOVA and GLM Procedures)" is a clearly written manual, which will be useful to both novice SAS users and long-time data analysts. The first chapter contains a brief statistical introduction to regression and experimental design and a short overview of SAS. The remaining chapters cover regression, analysis of means, analysis-of-variance models of less than full rank, covariance and heterogeneity of slopes, and multivariate linear models.

continued...

Update on SAS continued

Over twenty data sets are used to illustrate the basic kinds of linear models that can be analyzed with SAS.

Note that "SAS for Linear Models" will not replace either the "SAS User's Guide" or a good statistics book, but it is an excellent supplement. It is available from the Information Office at a cost of $17.95.

SAS 79.6

The 79.6 maintenance release of SAS, SAS/GRAPH and SAS/ETS will soon be available to users. The major purpose of this release is to correct problems from the previous 79.5 release, but there are some new features as well. Among the enhancements to SAS are TSO command support from within a TSO/SAS session, and a new procedure in SAS/GRAPH, G3GRID, which produces a rectangular grid of data points from a random set of (X,Y) points. As well, PROC GMAP now produces prism and block maps, and Alaska and Hawaii have been added to the U.S. map data sets. GCHART supports exploded pie charts.

New System Option: NODQUOTE/DQUOTE

This option tells SAS whether character literals may be bounded by quotation marks ("). If DQUOTE is specified, character literals of the form "ABCD" are accepted and may contain unpaired apostrophes ('). For example,

"DON'T"

is an accepted character literal if DQUOTE is in effect. However, quotation marks that are part of the character value must be paired. This may affect existing TITLE, FOOTNOTE, NOTE, LABEL, and VALUE statements and data set labels.

NODQUOTE is the default. When NODQUOTE is in effect, apostrophes and quotation marks are used as they have always been.

Enhancements to GLM/ANOVA

Several new multiple comparison methods are available in PROC GLM and PROC ANOVA. Options should be specified in the MEANS statement.

BON	Bonferroni t tests
LSD	Fisher's least-significant difference test
SCHEFFE	Scheffe's multiple-comparison procedure
SNK	Student-Newman-Keuls multiple range test
SMM	studentized maximum modulus test
TUKEY	Tukey's studentized range test (HSD)

The ALPHA= option may take any value between 0 and 1 for all of the options listed above.

The TPRINT Procedure

TPRINT is an experimental pre-release version of PROC PRINT that allows you to specify variable labels for column headings. The additional options needed to produce variable labeling are described below.

LABEL The LABEL option prints variable labels, if any, instead of variable names. A LABEL statement is used to give variables their labels. The LABEL statement may be used in the PROC TPRINT step or in the DATA step that builds the data set you want to print. (If the LABEL option is not specified, TPRINT uses only variable names.)

SPLIT=character The SPLIT= options specifies a character that defines where to split the label. For example, SPLIT='#' tells SAS that the label 'THIS IS#A LABEL' is to be printed, as follows:

THIS IS
A LABEL

If SPLIT= is used, the LABEL option is implied. If the SPLIT= option is not used, TPRINT splits the label as close as it can to the center of the label (excluding trailing

continued...

Update on SAS continued

blanks). If you do not want the label split, add the split character to the label after the last non-blank character. If you want the procedure to omit the column header for a variable X, use the following statements:

```
PROC TPRINT SPLIT=‘*’;

  LABEL X=‘*’;
```

Since the procedure never prints labels vertically, use of the LABEL option with long variable labels may significantly increase the number of pages needed to print the data set.

Note that TPRINT uses about 4K-8K more memory than PROC PRINT.

TSO Statement

The TSO command support feature provides a new SAS statement that executes TSO commands during a SAS session.

```
TSO [any TSO command];
```

You may specify any TSO command up to 200 characters in length; SAS executes the statement as soon as it is encountered. The TSO statement

```
TSO ALLOC FI(IN) DA(‘USER.MY.SASDATA’);
```

allocates the data set named USER.MY.SASDATA without exiting from SAS. The TSO statement must end in a semicolon, and does not support the TEST, LOGON, or LOGOFF commands.

Further Information

Most of the information in this article came from the most recent SAS Institute newsletter, which is available for reference from the Information Office or your CSR. The new procedures and enhancements to SAS/GRAPH are documented in the SAS Technical Report P-119, which is also available at the Information Office.

Diane Mitchell

SAS News Facility Enhancement

The SAS NEWS facility has been improved with the addition of a PROC NEWS and the implementation of guide lines regarding the maintenance of SAS news messages. These messages are a hotline service targeted for SAS users, containing such information as SAS course announcements and changes to SAS.

PROC NEWS is intended to supplement the SAS news messages and to provide an online source of information about SAS, SAS/Graph, and SAS/ETS.

The remainder of this article reproduces the online result of executing

```
PROC NEWS KEYWORD.NEWS;
```

Use PROC NEWS to get news about SAS.

The form is:

```
PROC NEWS ALL CURRENT/NEW SUMMARY/SHORT
     DATE=DATE BEFORE=DATE AFTER=DATE
     KEYWORD=KEYWORD TO SEARCH THE SUMMARIES FOR
     ITEM=ITEM NUMBER
     ;
```

ALL: gives all the news items.

CURRENT: gives the most recent news item. This is the default.

SUMMARY: gives just a summary of the selected news items.

DATE=DATE: selects all news items after the specified date.

continued...

SAS News Facility Enhancement continued

AFTER=DATE: selects all news items after the specified date.

BEFORE=DATE: selects all news items before the specified keyword.

KEYWORD=KEYWORD: selects all news items with the specified keyword in the summary. If the keyword is longer than 8 characters or contains non-alphabetic characters, the keyword should be enclosed in quotes.

ITEM=ITEM NUMBER: selects a news item by its order in the news file. For example, saying current is the same as saying ITEM=1.

A date, for use with DATE=, BEFORE=, or AFTER= is of the form

DDMMMYY - ie 18APR82
or
DDMMYY - ie 180482
or
YYMMDD - ie 820418

Various parts of the date may be omitted, in which case the part omitted is considered a wild card. For example: DATE=82 or DATE=1982 to select all items in 1982. **Note:** the year may be specified as 198X if the month and day of the month are left off; DATE='APR1982' is wrong.

DATE=JAN82 or DATE=0182 to select all items in January, 1982.

For various reasons (outlined in the SAS Programmers Guide, or the red SAS Manual) if the date contains both alphabetic and numeric characters it may have to be enclosed in quotes.

For example:

AFTER='APR82' selects all items in and after April 1982.

Other examples:

PROC NEWS SUMMARY ALL; gives a summary of news items.

PROC NEWS KEYWORD=UTCS; gives a listing of all news items with UTCS in the summary.

PROC NEWS DATE=81; gives a listing of all news items from 1981.

PROC NEWS AFTER='APR82' SUMMARY; gives a summary of all news items dated in and after APR 1982.

Rob Janes

GIGI Terminal Special Offer

UTCS has arranged to make GIGI terminals available to the university community at a special price. The keyboard unit sold by DEC, combined with a user-supplied colour or black-and-white "video monitor" screen, makes a complete video terminal with graphics capability. While the monitor is not included, the purchaser receives a 50% discount coupon valid for purchase of a Barco colour monitor. Of course, inexpensive black-and-white monitors are available locally.

In its simplest form, GIGI is a 24x80 serial ASCII terminal using XON/XOFF for communications at standard baud rates (from 300 baud up to 19.2 K baud). It is compatible with the VT100 terminal, and has three software-loadable character sets.

The terminal also includes a BASIC language interpreter for limited local execution. GIGI BASIC can be used for graphics applications, or the graphics codes can be generated by a host computer.

The graphics commands are 'REGIS' commands, DEC's high-level graphics com-

continued...

GIGI Terminal Special Offer continued

mand language. REGIS is also used on the VT125 graphics and can be adapted for use on the newly-announced DEC Personal Computer 'Professional 350'. REGIS is easy to use, and can be generated from almost any computer system in any programming language capable of generating ASCII text. UTCS supports GIGI with output from SAS/GRAPH and the KIG graphics package. VT100 and APL character sets are also available.

The normal retail price of the DEC keyboard units is $2800. University departments can now purchase them at $1570 including a black and white monitor, through normal Purchasing Department channels.

For more information on GIGI, or to discuss its suitability to your application or arrange a demonstration, please contact your CSR.

Ian F. Darwin

Class C Memory Limit Raised to 5 Megabytes

As readers of last month's *COMPUTERNEWS* know, the memory limit for Class E jobs has been extended to 5 megabytes. As well, the memory limit for Class C jobs has now been extended to 5 megabytes.

A /*SETUP statement is needed in any Class C (as well as Class B or Class E) job requesting more than 500K. Details concerning the use of this statement and Class C limitations can be found in USERBOOK Section 3.3BATCH. A discussion of the factors pertaining to choosing Class C or Class E can be found in the article entitled "Class C Summer Special" in the May/June issue of *COMPUTERNEWS.*

There are 5 classes of batch jobs on the IBM 3033 computer. A brief summary of the important characteristics of these classes is provided below.

Class A: A high turnaround class for jobs requiring little in the way of machine resources (CPU time < 5 minutes, memory < 500K, no tape/disk mounts, and limited unit record services) .

Class B: A high turnaround class for jobs requiring significant machine resources (CPU time > 5 minutes and/or memory > 500K and/or tape/disk mounts and/or large unit record output).

Class C: A low turnaround, reduced rate class for jobs, which requires neither large amounts of CPU time nor large amounts of memory.

Class E: A low turnaround, reduced rate class for large jobs. Small jobs run under this class incur a $15. minimum charge.

Class W: A high turnaround class providing access to the High Speed Job Stream processors only.

Readers are referred to USERBOOK Section 3.3BATCH for more information about job classes.

Bob Chambers

UTCS Summer Short Courses

Users may be aware that UTCS routinely offers courses in SAS, WYLBUR, Graphics, and FORTRAN, but they may not know that UTCS will schedule special sessions of these courses if there is a group demand. If you know of a group, or are part of a group that would like a UTCS course, please contact your CSR.

Herb Kugel

Computers In The Movies

(Reprinted from the North Dakota State University Computer Centre Newsletter, vol. XVII, No. 5, 1982.)

The following is a trip down trivia lane to determine if you have kept up with Hollywood's portrayals of the machines so dear to our hearts. Movies in which a computer plays an integral part tend to depict them either as monsters turning on their masters or as mysterious boxes only understood by an eccentric group of college geniuses. Obviously, we need to work on PR.

In case you are stumped, the answers will be printed at the back of this issue of *COMPUTERNEWS.* Good luck with the quiz and have a good summer.

1. Name the futuristic movie directed by George Lucas and starring Robert Duvall which portrays a dehumanized society where love is outlawed and computerized confessionals keep citizens in line.
2. Probably the most famous computer in film is the soft-voiced member of the crew of the Discovery in the film 2001: A SPACE ODYSSEY. Can you name this computer which turned on the crew members?
3. What, if anything, does this name signify?
4. As Dave releases the memory units in the above film what song does the computer begin to sing?
5. PROTEUS is a computer that can think; unfortunately for Julie Christie, it also lusts after her and finally has its way with her. Name this strange 1977 film.
6. Can you name the 1970 film where an American super-computer, named Colussus, and its Russian counterpart, Guardian, team up to take over the world and save it from mankind?
7. Even Spencer Tracy and Katherine Hepburn got into the act in a film called THE DESK SET. Tracy played a computer expert for what computer company in this film?
8. In the film ALIEN, what is the name of the computer that the crew members consult to obtain instructions as to what to do with the intruder?
9. Name the Disney movie where the typical college computing whiz gets zapped by a computer and, naturally, absorbs all of the computer memory into his body.

DEC-10 Gripes

Gripe:

The printer terminals create a lot of noise, making it impossible to concentrate while working with CRT terminals. It would be appreciated if such terminals would be located in separate rooms.

Gripe answer:

Since space is a problem all over the university, correction of this problem is difficult and depends on the circumstances at each computing site. For instance, the terminals at Sidney Smith are in seperate rooms, while at other sites this is not possible. If you have further questions you should see the terminal coordinator at your site.

Gripe:

Wishing to destroy all files with the prefix "TST", I attempted to type:

```
DEL TST.*
```

but, due to butterfingers, typed:

```
DEL TST,*
```

This is not a hard mistake to make, and there was considerable damage by the time I stopped it. It would be a good idea if such a doomsday command requested confirmation - the benefit would probably outweigh the very occasional annoyance.

Gripe answer:

This suggestion has been passed on to the appropriate systems personnel, who are now considering the matter. Some consequences of this change must be considered before anything is actually changed. The first consideration is that the change will affect a number of MIC and batch files already in use, which would require modification. Secondly, we have to consider how many people are in favour of the change, and to what level it should be implemented (i.e. only for anything.* or *.anything, or should it include checks for wild letter constructions?).

UTCS recommends that for all files (other than temporary ones) an extension should be included on them, as DEL * will delete only files without extensions. If you make a practice of including extensions and carefully check any commands involving wild cards BEFORE hitting return, you should avoid any further difficulties.

Gripe:

With DIRECT, I note that the file creation date is usually, but not always, incorrect for SCSS Masterfiles. This is not the case with SCSS Definition or Workfiles, nor any other files. If I were to create a Masterfile now, the day and month may be correct, but the year indicated would most likely be -71. Interestingly, a detailed directory command gives the correct internal creation date and time (as distinguished from the creation time, date -- which is incorrect).

Gripe answer:

The SCSS program itself supplies the incorrect date to the DEC-10 operating system. This problem has been sent to SCSS Inc. by the systems people responsible for the product. Hopefully, SCSS Inc. will correct this problem on subsequent versions. I am sure they appreciate this information, and thank you for passing it on to us.

Gripe:

RUNOFF Switch /CRETURN does not appear to work. That is, an input file with a blank line will not output blank lines as <RETURN>s. Why?

Gripe answer:

continued...

DEC-10 Gripes continued

The RUNOFF switch /CRETURN does not, in fact, work. You can accomplish the same thing by means of the RUNOFF line commands ".B" or ".S". RUNOFF, however, is an unsupported product and has many bugs. These bugs are fixed only if they are major and time and staff are available.

Gripe:

How does one estimate the number of blocks that can be stored on a 1600 bpi/9-track/odd parity magtape?

Gripe answer:

The answer depends on the format used to write to the tape. The two most common formats are a single 128-word block per physical record, or BACKUP format (32 header words plus 4 disk blocks [512 words] per physical record). The normal DEC-10 format writes five 8-bit bytes to store a 36-bit word. Thus, 1600 bytes per inch corresponds to 320 words per inch. Therefore, the first case requires 1.0 inch (0.4 for data and 0.6 for the inter-record gap) for each 128-word block of data. In the second case, BACKUP writes 1.7+0.6=2.3 inches for its 544-word record (which includes four 128-word blocks). Therefore, a 2400 foot tape will contain a) 28800 blocks, or b) 50087 blocks.

Gripe:

Tonight, and on rare occasions previously, odd characters (usually "{" or "w"), which I have not typed, are transmitted to the terminal. This happens both while on the QED full screen editor (which does tend to disrupt files) and while at monitor level. As a remote, dial-up user, I suppose you might chalk it up to line communication interference. But what laws of probability govern the occurrence of those specific characters?

Gripe answer:

Since there have been no systematic reports of problems like this, I must assume that it can only be line noise. Bell Canada only guarantees voice grade lines and these can occasionally cause the problems you describe. Unfortunately, this is something that all dial-up users are forced to contend with.

Gripe:

When my XT100 is set up in the way that the UNIX/VAX "tset" sets it, the autopage feature of the DEC stops working. Running INITIA shows that everything on the DEC side is set up properly. Resetting my terminal fixes the problem. Do you have any idea what is happening?

Gripe answer:

You probably are using your XT100 in smooth scroll mode. In order to do this, the XT100 has to send xon/xoff's in order to control the output. The DEC can't tell the difference between xon/xoffs sent by the terminal, and ^Qs and ^Ss sent by the user. Thus, the line count is constantly reset to zero. Therefore, autopage cannot work. The only suggestion is avoid using smooth scrolling if you want to have automatic paging.

Gripe:

I ran into a problem with GRIPE/MIC when using the suggested MIC-file method of editing a gripe before submitting it. I entered ".MIC SET NO SPECIALS" as the first line, followed by "R GRIPE". However, a line containing the word "command" followed by a colon was left behind by MIC, leaving the previous line (ending with "the") hanging.

Gripe answer:

The problem with MIC is that any line starting with solid alphanumeric characters followed by a double ":" (not a single ":") will be interpreted as a label, and thus everything up to and including the colons will be deleted from type in. At present

continued...

DEC-10 Gripes continued

there appears to be no known way to shut this off. So, if possible, avoid this situation.

Gripe:

SOS intraline command "J" should, according to chapter three of the reference manual, break the line at the pointer position and add the remainder to the next line. Instead, it seems that the next line is added to the one being edited.

Gripe answer:

The "SOS User's Manual", by David R. Hanson, claims that the "J" alter mode command is used to "break and join". This appears to be in error. The "J" alter mode command is used to "join" only. The command used to "break" is the ";" command. When ";" is entered in alter mode, the line is broken at the current cursor position and the rest of the line is assigned a new line number. For more information, please type: "H,A" while in SOS.

Gripe:

Couldn't 9600 baud be autobaud detected? Will classes 10 and 12 ever be merged?

Gripe answer:

We would like to have all the baud rates autobaud, but presently this is impossible. The DEC-10 autobaud detects with one character only. With that one character, only a step up or down can be detected. Thus, Class 10 and 12 cannot be merged and further autobauding will not be possible. However, PACX always recognizes the correct baud rate for its own uses. Therefore, a new release of PACX will, in the near future, allow automatic connection to the right port, and thus the need for autobauding should be somewhat decreased. Classes 10 and 12 may be collapsed to just 10.

Gripe:

When given an invalid tty name, the tty command simply types "?tty xxxxx?", where xxxxx is the invalid tty name. A user does not know if he mistyped, used an invalid command, or what. The error message should be "invalid tty", or something of the sort.

Gripe answer:

Unfortunately, the program that interprets the command is small and hard to change and so only detects the error in a rudimentary manner. However, the last token within the error message is always the one it did not recognize, thus everything before it in the error message is fine. Most of the time, this should be enough to interpret the error message contextually.

Gripe:

Is there a way of allowing a MIC COJOB to access a tape mounted in the job that created the COJOB?

Gripe answer:

A device can be passed from one job to another using the monitor command "REASSIGN dev: job". To get the COJOB to wait, use ".PLEASE Job '<job> waiting for dev:" in the MIC file. The owning job will see the message plus a "BREAK" statement. The user can use the REASSIGN command followed by the "COJOB A-PROCEED" command. Additional details can be found in DOC:MICREF.DOC and DOC:COJOB.DOC. WARNING: If the COJOB doesn't reassign the device, it will be deassigned.

Gripe:

With respect to SYSTAT, the "C" option for continuous display is documented but does not work. What does "SW" mean as a job state?

Gripe answer:

The "C" option does work when you are logged in. It waits for a few seconds between systats and does not work in a full

continued...

DEC-10 Gripes continued

screen mode. The "C" option will not work at the monitor because, otherwise, a terminal could be in use, consuming considerable resources without being logged in and charged for these resources.

SW means SWapped out.

Gripe:

Control-R should print out all unread text in the buffer instead of just back to the beginning of a line.

Gripe answer:

^R was only designed to print out everything back to the last line feed.

Gripe:

In SPELL, when responding <CR> to the output file query, SPELL does in fact rename the original to <file>.BAK, but it leaves the output in SPELLQ.TMP, not a file with the same name as the input. As well, when using the replace option, SPELL assumes an extra character has been typed after the carriage return following the new word. This character gets used as input to the next query from SPELL.

Gripe answer:

Spell is a DECUS product and thus is unsupported. We will tell the creators of the program about any bugs that we have hardcopy proof of. Thank you for your gripe and please get a hardcopy to us if you encounter the bugs again.

Gripe:

How about supplying a program like "more" on the Berkley UNIX which prints files, especially with the capability to scan for a specific string.

Gripe answer:

We currently have a program that functions along these lines. The name of the program is TYPE (or R TYPE when switches are needed). If you examine DOC:TYPE.DOC you will see that such functions as typing out specified columns and blocks etc. are possible. As to searching for strings, one can always use SOS with the /R switch (for read only), then do an f<string><ESC> command to find a string and examine the general area around it.

Dean Kemp
Andy Rice

Summary of APL HOTNEWS Items

The following is a list of HOTNEWS items entered between April 10, 1982 and June 14, 1982.

DATE	TITLE
14/05/82	On Sunday, May 16, APL will be moved to 3350 fixed media drives.
14/05/82	New hours of APL service, effective Monday, May 17, 1982.
20/05/82	An invitation to the meetings of the CIPS APL SIG.
21/05/82	Hours of service for the Victoria Day weekend.
31/05/82	Special forms consolidation, effective Monday, June 7, 1982.

APL HOTNEWS may be accessed by loading the workspace, 1 HOTNEWS. For example, to print the news of November 28, 1981, type: NEWS '28/11/81'. To print all news items since October 1, 1981, type: NEWS SINCE '01/10/81'. For more information on the use of this workspace, please see the variable DESCRIBE.

Mary Ann Lawry

Personnel Changes

This month several changes have been made to UTCS's staff. There have been several promotions: **Bill Lauriston,** previously the Operations Manager is now the new Systems Manager, and **Bob Chambers,** formerly a CSR, is the new Operations Manager. **Joan Coutts,** who worked as an operator in the Engineering Annex is now working in the Accounting Office. The previous shift supervisor in Operations, **David Ming-Sun,** is now the supervisor for DEC Operations. **Marnie Posnikoff** is replacing David as shift supervisor. Marnie was previously a console operator in Operations.

The new Supervisor of CSS Hardware is **Luke Sulatycki.** Before coming to the University of Toronto, Luke worked at Bell Canada.

We're losing two Assistant Editors! **Kathy Dunlop** has worked with Information Services for the past year. She will be leaving at the end of July to reside in Minnesota. **Thea Smith,** our other Assistant Editor at Information Services, has left to live in Nova Scotia. **Sandy Ballantine,** our receptionist at Information Services, is also departing our ranks to become a full-time mother at home. **Sue Chong** is leaving at the end of July to work at Royal Trust. Sue worked as a CSR in the Engineering Annex. **Clara Pereira** is now on Maternity leave and will resume her position as Management Secretary when she returns in October. **Reiner Paessler** an Operator at McLennan Labs, is leaving to do some travelling. In mid-August **Mike Grossman** will be leaving to return to school. Mike works with the CSS group. All the best to everyone!

Kathryn Bourne

Recent Acquisitions in the DCS Library

Backhouse, Roland C.
Syntax of programming languages: theory and practice.
Englewood Cliffs, N.J., Prentice-Hall, 1979.

Caelli, Terry.
Visual perception: theory and practice.
Oxford, Pergamon Press, 1981.

Draper, Norman Richard.
Applied regression analysis, by N.R. Draper and H. Smith. 2nd ed.
New York, Wiley, 1981.

Welsh, Jim and McKeag, M.
Structure system programming.
Englewood Cliffs, N.J., Prentice-Hall, 1980.

Quiz Answers

1. THX 1138
2. HAL 9000
3. While the acronym is popularly thought to be a one letter transposition of IBM (each letter decreased by one), Arthur C. Clarke, the author of 2001 and the co-producer of the movie, claims that this is not so. He states that HAL stands for Heuristically programmed ALgorithmic computer.
4. "Daisy" (also known as "A Bicycle Built for Two")
5. Demon Seed
6. Collusus: The Forbin Project
7. IBM
8. Mother
9. The Computer Wore Tennis Shoes

Computing Services Representatives and Enquiries

Administrative Users	Vera Cabanus	MP217	5040
Arts and Science Terminal	Dr. Bill Fehlner	SS2133	6509
Engineering Annex Terminal	Sue May Chong	EA104	4357
Erindale College Terminal	Peter Wall	2043	828-5311
External Customers	Ihor Prociuk	SG200	6875,6885
New Physics Terminal	TBA	MP331	5120
Scarborough College Terminal	Bob Blackburn	H104	284-3173

General Enquiries	4990	System Status Enquiries (DEC)	4318
Programming Advising	6465	System status Enquiries (IBM)	7319
Access Codes	8703	300 Baud Interactive Services	6200
Account Enquiries (U of T)	8702	1200 Baud Interactive Services	5137
Account Enquiries (External)	7148	DATAPAC	4320 0056
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Tape Library (Administrative Services)	6693	Tymnet	<backspace> 30200;;4320 0056

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Assist. Director & Manager, Business	William Murphy	MP345	4428
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Manager, Operations	Dr. Bob Chambers	MP350	7092
Manager, Systems	Bill Lauriston	MP350	3579
Executive Asst., Research & Planning	Wendy Chin	MP350	5568
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Supervisor, Applications	Herb Kugel	SG304	7286
Supervisor, Business Systems	Sheila Brown	MP345	8697
Supervisor, CSS Hardware	Luke Sulatycki	ML244	4693
Supervisor, CSS Software	Ian Darwin	ML244	6134
Supervisor, Communications	Ron VanderKraats	ML244	4624
Supervisor, Data Entry	Betty Chan	HU215	5273
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Supervisor, DEC Systems	Dr. Edmund West	MP331	4085
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Supervisor, Information Services	David Reed	EA206	2066
Supervisor, Internal Systems	Peter Young	MP331	7279
Supervisor, Networking & Student Services	Tom Milligan	MP331	7063
Supervisor, Programming Services	Paul Roth	SG205	8701
Supervisor, Staff Support	Adriana Marrelli	MP345	5240
Supervisor, Systems	Robert Keith	MP331	3961
Supervisor, Text Entry Services	Irene Rosieki	MP217	5040
Supervisor, Text Services	John Bradley	MP217	3995
Supervisor, Time Sharing Services	Alex Nishri	SG204	7109

UTCS Systems

3033/N12 PROCESSOR

- located in McLennan Physical Laboratories
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR, APL and ATMS services
- 12 megabytes of memory
- MVS with JES2

4341 PROCESSOR

- located in McLennan Physical Laboratories
- provides administrative IMS/VS DB/DC, Batch and TSO
- 8 megabytes of memory
- MVS with JES2

DECSYSTEM-10 Model 1090

- located in McLennan Physical Laboratories
- provides General Purpose Time-Sharing
- 256 K - 36 bit words of memory
- TOPS-10 operating system

COMMUNICATIONS & SMALL SYSTEMS (CSS)

- located in Old Metro Library Bldg., Room 244
- DEC PDP-11/40 with GT44 Graphics
- DEC PDP-11/05 with GT40 Graphics
- Various Z80-based microcomputers (S-100, CP/M)
- Radio Shack TRS-80
- Western Digital Pascal MicroEngine
- Apple II Plus
- provides specialized interactive graphics
- provides online and real-time computing services, data acquisition and conversion, and minicomputer services

VAX 11/750

- located in Engineering Annex
- provides computer science interactive access
- 2 megabytes
- UNIX (Berkeley)

VAX 11/780 (LIBRA)

- located in McLennan Labs
- provides "Glass Keypunch" access to HSJS
- 4 megabytes
- VMS running LIBRA

VAX 11/780 (LIBRA/SCS)

- located in McLennan Labs
- provides backup, program testing, and inter-communication relating to student service
- provides Spare Cycle Service
- 4 megabytes
- VMS/LIBRA

VAX 11/750 (LIBRA)

- located at Scarborough College
- provides "Glass Keypunch" access to HSJS
- 2 megabytes
- VMS running LIBRA

VAX 11/780 (LIBRA)

- located at Erindale College
- provides "Glass Keypunch" access to HSJS
- 4 megabytes
- VMS running LIBRA and Research access

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